

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

OPERATIONAL MEMO 115-10
REVISION 2

TO: All Waste and Hazardous Materials Division Supervisors
FROM: George W. Bruchmann, Chief, Waste and Hazardous Materials Division
DATE: March 4, 2009
SUBJECT: Sanitary Landfill Alternative Daily Cover (ADC) Approval, Requirements, and Procedures

Pursuant to R 299.4429(2) of the administrative rules promulgated under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA):

Alternative materials of an alternative thickness, other than at least 6 inches of earthen material, may be used as daily cover at a type II landfill if the alternative material is approved in the landfill operating license....

Three classes of ADC materials are specified in R 299.4429(2):

1. Class A daily cover, which includes certain manufactured materials.
2. Class B daily cover, which includes the following waste materials, provided at least 95 percent of the material is retained on a number 200 sieve: chipped tires, wood chips, ash from the combustion of coal or wood, ground shingles and other roofing material that do not contain friable asbestos, alum sludge from the treatment of potable water at municipally-owned water treatment facilities, foundry sand, dredge spoils, and paper mill sludge.
3. Class C daily cover, which includes waste materials documented to be nonhazardous, as defined in Part 111, Hazardous Waste Management, of the NREPA, and do not contain hazardous constituents in concentrations exceeding criteria established by the Department of Environmental Quality (DEQ) Director for daily cover. Class C daily cover materials include contaminated soil from leaking underground storage tanks containing petroleum products, auto fluff, materials listed in Class B, above, that have less than 95 percent of the material retained on a number 200 sieve, and other wastes approved by the DEQ Director.

In order to provide consistency throughout the various district offices on issues related to the approval of alternative materials as daily cover at Type II landfills, the following procedures shall be used:

1. The use of daily cover other than six inches of uncontaminated soil shall be reviewed and approved either in the operating license or in writing by the Waste and Hazardous Materials Division (WHMD) District Supervisor prior to a licensee using the material.
2. All requests for the use of ADCs shall be submitted to the appropriate district office and shall contain the following information:
 - a. A letter from the landfill owner/operator requesting that the DEQ consider the alternative material for use as daily cover at the specific facility.
 - b. Specific information on the material or product proposed for use as an ADC. For Class B ADC, documentation that at least 95 percent of the material is retained on a number 200 sieve. For Class C ADC materials, analytical information as required in Paragraph 4, below, origin of material, amount of material available, duration of intended use of the alternative cover material, and any other information that may be deemed necessary to provide for a complete review.
 - c. Written operational procedures for the use of the proposed material that are consistent with the requirements of R 299.4429(3).
3. The district office shall review the request to determine if the material is suitable, as required in R 299.4429(2). The material shall be deemed suitable if the physical and chemical characteristics of the material allow it to meet all of the intended purposes of daily cover described in R 299.4429(2). In addition, the placement of the material should allow the free movement of gases and liquids.
4. In order to obtain approval for the use of Class C ADC waste materials, the licensee is required to submit:
 - a. Documentation to show that the materials are not a hazardous waste, per Part 111.
 - b. Documentation showing the materials do not contain hazardous constituents in concentrations exceeding the criteria established in Attachment 2 of this operational memo. Testing shall be done on a representative number of samples pursuant to Attachment 1 of this operational memo for the constituents listed in Attachment 2 (a minimum of four discrete samples per waste stream, although more testing will be

required if the analytical results are highly variable.) Characterization data shall be obtained every year, or whenever the process used to generate the material changes. Characterization data and/or sieve analyses shall be maintained in the facility operating record.

5. Waste materials that have not been designated as an inert material pursuant to R 299.4114 being used as ADC must comply with the intercounty disposal restrictions of the applicable county Solid Waste Management Plan(s). Except for those wastes designated as an inert material pursuant to R 299.4114, the quantities of approved waste materials used as an ADC shall be included in the quantity of waste disposed of for the purposes of payments to the Perpetual Care Fund under Section 11525 of Part 115 and surcharge payments under Section 11525a of Part 115.
6. Based on the review, the WHMD District Supervisor will recommend approval or denial of the request. If the request is acceptable, the District Supervisor shall approve the use of the alternative cover material at the facility. The District Supervisor may specify a time frame for the use of the ADC or may approve the use of the ADC for the duration of the current operating license.
 - a. If the request for alternative cover has been submitted as part of an operating license application or renewal, an approval will be issued in the form of a special condition to the operating license following the format shown in Attachment 3 of this operational memo.
 - b. If the request for alternative cover has been submitted by a facility with an existing operating license that contains the condition, "Requests for alternative daily cover may be approved, in writing, by the WHMD District Supervisor," the District Supervisor will incorporate the general operating stipulations described in Attachment 3 in an approval letter to the licensee.
 - c. All previously approved Class C ADCs must be reevaluated at the time of relicensure to ensure that the alternative cover materials comply with the criteria specified in Attachment 2. Waste streams or materials not previously requested for use as ADC are subject to the requirements of this operational memo.
7. Copies of all ADC approvals and denials shall be sent by District staff to the Chief of the Storage Tank and Solid Waste Section to be maintained in a central file for reference and to ensure statewide consistency.

Attachments

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ATTACHMENT 1
TESTING REQUIREMENTS FOR
ALTERNATIVE DAILY COVER AT LANDFILLS

For the material to be used for alternative daily cover, the generator must first show that the material is nonhazardous either through testing or by using knowledge of the process in which it is produced.

For Class B daily cover materials, the generator must demonstrate that at least 95 percent of the material is retained on a number 200 sieve. For those materials that make this demonstration, no additional waste characterization will be required. Class B daily cover materials shall be retested annually to demonstrate compliance with this requirement. If less than 95 percent of the material is retained on a number 200 sieve, then the material becomes a Class C daily cover material and is subject to those waste characterization requirements.

For the waste characterization review of Class C materials, the generator must representatively sample and test the material on an annual basis for total concentrations (reported in milligrams/kilograms on a dry weight basis) of the constituents contained in Attachment 2 of this operational memo. The generator shall ensure that the material does not contain any constituents, in addition to those listed in Attachment 2 that would cause a nuisance or harm to public health or the environment. If additional criteria are developed in the future, the generator shall be responsible for ensuring that their waste meets all applicable criteria. Generally, according to procedures outlined in the U.S. Environmental Protection Agency's "Test Methods for Evaluating Solid Waste," SW-846, four discrete samples would constitute the minimum number of samples necessary to be considered representative of a waste stream. The generator may use other appropriate guidance, upon consultation with and approval of Department of Environmental Quality staff, to determine an appropriate sampling protocol.

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ATTACHMENT 2
ALTERNATIVE DAILY COVER GUIDELINES

The following criteria are established for determining use of a Class C alternative daily cover. No volatile constituent may exceed the respective maximum allowable concentrations shown. Nonvolatile constituents may exceed the maximum allowable concentration if the licensee ensures that fugitive dust emissions from the material do not occur. These levels are based on the assumptions shown below and have been determined to be protective relative to inhalation concerns at the facility property line.

<u>Contaminant</u>	<u>Concentration</u>
Lead	3,333 parts per million
Silver	70,000 parts per million
Selenium	26,667 parts per million
Copper	867 parts per million
Zinc	466,667 parts per million
Mercury	2,000 parts per million
Arsenic	5.8 parts per million
Cadmium	3.7 parts per million
Chromium	18 parts per million
Ethylene Dichloride	65.6 parts per million
Methylene Chloride	729 parts per million
Tetrachloroethylene	1.2 parts per million
Trichloroethylene	437 parts per million
Vinyl Chloride	291 parts per million
Chloroform	291 parts per million
Benzene	102 parts per million

For Auto Shredder Residue:

<u>Contaminant</u>	<u>Concentration</u>
Polychlorinated Biphenyls	50 parts per million
Mercury (by leach test)	0.2 milligram per liter

NOTE: The material would also have to be evaluated relative to the applicable hazardous waste and safety regulations.

Assumptions:

1. 1 acre exposed
2. 100 feet to fence
3. 70-year exposure
4. All chromium is hexavalent
5. Risk 1E-6
6. No additional measures, above normal operating license conditions, for fugitive dust control are required.

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ATTACHMENT 3
SPECIAL OPERATING LICENSE CONDITIONS

The licensee shall place a compacted layer of not less than six inches of earthen material, unless an exemption is granted, of suitable cover material on all exposed solid waste by the end of each working day, as required by R 299.4429(1) of the administrative rules promulgated under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Suitable cover shall be either uncontaminated soil or an alternative cover approved by the Department of Environmental Quality, Waste and Hazardous Materials Division, listed in Item 1, below. Alternative cover shall be restricted as indicated in Item 2, below, and applied as per the approved operational plan submitted by the licensee.

1. Approved alternative cover shall be any of the following:

Product/Waste Material

Source

2. The above materials are approved for daily cover when used in the following manner:

- a. The licensee shall use the material as daily cover only. The material cannot be used for road building or fill in other areas of the Facility's operation.
- b. The licensee shall maintain copies of the testing performed on Class B and Class C materials in the facility operating record.
- c. The licensee shall only stockpile material in a secure manner within the active cell.
- d. This approval does not preclude the licensee from disposing of the material as waste in the active fill area instead of using the material as daily cover.
- e. This approval shall immediately become void upon documentation by the Department of Environmental Quality that the alternative cover is not being used in accordance with listed conditions, that the alternative cover is not providing the necessary protection, that the material no longer meets the alternative daily cover guidelines, or that the process producing the waste material has changed.
- f. If the material does not meet the guidelines from Attachment 2 of Operational Memo 115-10, Revision 2, for nonvolatiles, the licensee shall ensure that fugitive dust emissions from this material do not occur. Acceptable methods to ensure fugitive emissions do not occur are:
 - i. Implement a schedule to wet down material; or
 - ii. Cover the material with a tarp; or
 - iii. Apply an approved foam or other appropriate commercial dust control product.
- g. This approval to use alternative cover shall expire on _____.